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A NEW SPECIES OF THE SUBGENUS *CHORTHIPPUS* (*ALTICHORTHIPPUS*) FROM HEBEI PROVINCE OF CHINA (ORTHOPTERA, ACRIDOIDEA, ARCYPTERIDAE)

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Abstract A new species i. e. *Chorthippus* (*Altichorthippus*) *hebeiensis* sp. nov. is described from Hebei Province of China. The new species is similar to *Ch.* (*Altichorthippus*) *changtuensis* Yin, 1984, but differs from the latter in the hindwings short, only extending to 2/3 of tegmina, medial area of tegmina is about 1.8 times the maximum width of cubital area in male, inner side of hind femur without dark oblique stripes at base in male, the minimum width of interspace between mesosternal lobes 1.2 times of length in female. The new species is also similar to *Ch.* (*Altichorthippus*) *louguanensis* Cheng *et* Tu, 1964, but differs from the latter in the medial area of tegmina about 1.8 ♂ and 2.0 ♀ times the maximum width of cubital area, inner side of hind femur without dark oblique stripes at base in male, hind tibia yellow brown, apex of tegmina in female slightly beyond fourth abdominal tergum. The type specimens are deposited in the College of Life Sciences, Hebei University, Baoding China.

Key words Orthoptera, Arcypteridae, *Chorthippus*, new species, China.

The genus *Chorthippus* was erected by Fieber in 1852 and the type species is *Chorthippus albomarginatus* (De Geer, 1773) [= *Acridium albomarginatum* De Geer, 1773]. Up to the present, the genus contains four subgenera (i. e. *Chorthippus* Fieber, 1852; *Megaulacobothrus* Caudell, 1921; *Glyptobothrus* Chopard, 1951 and *Altichorthippus* Jago, 1971) and about 229 species in the world, among them 142 species occur in China (Bei-Bienko *et* Mishchenko, 1951; Jago, 1971; Harz, 1975; Xia *et* Jin, 1982; Yin, 1984; Yin *et al.*, 1996; Zheng *et* Xia, 1998; Zheng *et al.*, 2009; Eades *et al.*, 2011).

The subgenus *Altichorthippus* was erected by Jago in 1971 and the type species is *Chorthippus uvarovi* Bei-Bienko, 1929. It has the following main characters separating from the other 3 subgenera: tegmina and hindwings in both sexes usually not developed, apex not extending to abdominal extremity, sometimes in male extending to or slightly beyond, then hindwings shorter than tegmina; hind femur brown or black at end; female tegmina usually not extending beyond sixth abdomere, if beyond, then end of hind femur black or precostal area of tegmina long and narrow, extending beyond middle of tegmina. Xia *et* Jin (1982) used the subgenus name firstly and recorded 20 species. Zheng *et al.* (1998) recorded 32 species of the group in Fauna Sinica. In recent years, some new species were discovered in China. Up to now, there are 42 species recorded from China (Liu *et* Fan, 1992; Zhang *et al.*, 1993; Huo, 1994; Ma *et al.*, 1994; Ma *et al.*, 1995; Zheng *et* He, 1995; Zheng *et al.*, 1998; Zheng *et* Xie, 2000; Zheng *et* Shi, 2007; Zheng *et* Sun, 2007; Zheng *et* Zeng, 2009). Among them, it should be pointed out that, when checking original paper and specimens of Chorthippus, we found 2 species have the same scientific names in the other 2 subgenera: *Ch.* (*Altichorthippus*) *tianshanensis* Liu *et* Fan, 1992 and *Ch.* (*Megaulacobothrus*) *tianshanensis* Zheng, Ma *et* Ren, 2009, *Ch.* (*Altichorthippus*) *daixianensis* Ma, Jia *et* Li, 1994 and *Ch.* (*Glyptobothrus*) *daixianensis* Zheng, Shi *et* Ma, 1996. Based on Article 57.4 of International Code of Zoological Nomenclature (Fourth Edition), they are primary homonyms. So, *Ch.* (*Megaulacobothrus*) *tianshanensis* Zheng, Ma *et* Ren, 2009 and *Ch.* (*Glyptobothrus*) *daixianensis* Zheng, Shi *et* Ma, 1996 should be renamed.

In the present paper, one new species of the subgenus *Chorthippus* (*Altichorthippus*) Jago, 1971 is described from Xiaowutai Mountain, Hebei Province, China. The type specimens are deposited in the College of Life Sciences, Hebei University.

***Chorthippus* (*Altichorthippus*) *hebeiensis* sp. nov.**
(Figs 1 - 6)

Male Body small in size. Head shorter than pronotum. Face slightly sloping backward. Frontal ridge broad at base, narrowed upward slightly, around ocellus concave. Fastigial foveolae oblong, the length is 3 times the width. Eyes oval, longitudinal

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Figs 1 – 6. *Chorthippus hebeiensis* sp. nov. 1. Male, head and pronotum, dorsal view. 2. Male, dorsal view. 3. Male, inner side of hind leg. 4. Female, tegmina. 5. Female, interspace of mesosterum. 6. Female, lateral view.

diameter about 1. 5 times as long as minimum diameter and 1. 6 times the length of subocular suture. Antennae filiform, 22 segmented, surpassing behind posterior margin of pronotum, length of a segment in middle of anntenae 3. 2 times its width. Median carina of pronotum distinct, cut by hind transverse sulcus only, prozona slightly longer than metazoan in length, lateral carinae arcuate in prozona and undeveloped in prozona, anterior margin of pronotum straight and posterior margin curved. Length of interspace of mesosterum equal to its minimum width. Lateral lobes of metasternum separate. Tegmina reaching to end of epiproct, precostal area short, without intercalary vein, not reaching midpoint of tegmen; medial area of tegmina about 1. 8 times wider than cubital area. Hindwings short, only extending to 2/3 of tegmina. Hind femur robust, the length is 4. 0 times of the maximum width, tip of lower kneelobe rounded, inner side with 140 – 160 sonorific teeth. Posterior tibia with 11 – 12 spines on inner side and 12 – 14 spines on outer side, outer apical spine absent. Arolium slightly shorter than claw. Tympanal organ developed, tympanic cavity oval. Epiproct triangular, with broad median longitudinal sulcus. Cercus conical. Subgenital plate conical, distinctly surpassing apex of epiproct.

Female. Body larger than male. Eyes small, longitudinal diameter about 1.4 times as long as minimum diameter and 1.4 times longer than subocular suture. Tegmina shorter, beyond slightly hind margin of fourth abdominal tergum, medial area of tegmina about 2.0 times wider than cubital area. The minimum width of interspace of mesosterum 1.2 times its length. Hind margin of subgenital plate angulated in middle. Ovipositor valves shorter, apex slightly hooked, upper side smooth.

Coloration. Body yellow. Eyes brown. Antennae yellowish-brown. Tegmina yellow. Fore and median legs yellowish-brown. Hind femur yellow brown, inner side without in male and with in female dark sloping stripe at base, knee lobe dark. Hind tibia yellow brown, base black.

Table 1. Comparison of *Ch.* (*Altichorthippus*) *hebeiensis* sp. nov., *Ch.* (*Altichorthippus*) *changtuensis* Yin, 1984 and *Ch.* (*Altichorthippus*) *louguanensis* Cheng *et* Tu, 1964.

	Ch. (*Altichorthippus*) *changtuensis*	*Ch.* (*Altichorthippus*) *hebeiensis* sp. nov.	*Ch.* (*Altichorthippus*) *louguanensis*
Length of hindwings in male	Long, extending to 4/5 of tegmina	Short, only extending to 2/3 of tegmina	Short, only extending to 2/3 of tegmina
Width of tegmina medial area	About 1.5 ♂ and 2.0 ♀ times miximum width of cubital area	About 1.8 ♂ and 2.0 ♀ times miximum width of cubital area	About 2.0 ♂ and 1.8 ♀ times miximum width of cubital area
Inner side of hind femur in male	With dark oblique stripes at base	Without dark oblique stripes at base	With dark oblique stripes at base
Interspace between mesosternal lobes in female	The minimum equal to length	The minimum width 1.2 times of length	The minimum width 1.2 times of length
Hind tibia	Yellow brown	Yellow brown	Orange red
Length of tegmina in female	Apex extending to fourth abdominal tergum	Apex slightly beyond fourth abdominal tergum	Apex extending to fifth abdominal tergum

Measurements (in mm). Length of body: ♂ 16.5 – 17.5, ♀ 23.6 – 24.7; length of tegmina: ♂ 10.4 – 11.2, ♀ 7.6 – 9.0; length of hind femur: ♂ 10.3 – 10.6, ♀ 13.4 – 14.5.

Holotype ♂, Mt. Xiaowutai, Hebei Province, China (40°02′N, 115°28′E; alt. 1 720 m), 27 June 2009, coll. by LI Xin-Jiang and JIANG Hong-Da. Paratypes: 4 ♂♂, 5 ♀♀, same data as holotype.

Diagnosis. The new species is similar to *Ch.* (*Altichorthippus*) *louguanensis* Cheng *et* Tu, 1964 and *Ch.* (*Altichorthippus*) *changtuensis* Yin, 1984, but differs from the latter in the characters (Table 1).

Distribution. Currently only known from the type locality.

Etymology. The specific epithet is named after Hebei Province, the type locality.

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河北省雏蝗属短翅亚属一新种（直翅目，蝗总科，网翅蝗科）

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摘 要 记述了采自河北省小五台山的雏蝗属短翅亚属1新种，河北雏蝗 *Chorthippus* (*Altichorthippus*) *hebeiensis* sp. nov.，模式标本保存于河北大学生命科学学院。

河北雏蝗，新种 *Chorthippus* (*Altichorthippus*) *hebeiensis* sp. nov.（图1~6）

新种与昌都雏蝗 *Ch.* (*Altichorthippus*) *changtuensis* Yin, 1984 近似，区别特征为：雄性后翅短，仅到达前翅的2/3，前翅中脉域为肘脉域最宽处的1.8倍，后足股节内侧无暗色纵条纹，雌性中胸腹板侧叶间中隔最窄处为长的1.2倍。

新种与楼观雏蝗 *Ch.* (*Altichorthippus*) *louguanensis* Cheng *et* Tu, 1964 近似，区别特征为：前翅中脉域为肘脉域最宽处的1.8 ♂和2.0 ♀倍，后足股节内侧无暗色纵条纹，后足胫节黄褐色，雌性前翅略超过腹部第4节背板后缘。

正模 ♂，河北省小五台山，海拔1 720 m，2009-06-27，李新江，姜鸿达采。副模：4 ♂♂，5 ♀♀，分布及采集同正模。

词源：新种种名以模式标本产地河北省而定名。

关键词 直翅目，网翅蝗科，雏蝗属，新种，中国.
中图分类号 Q969.265.1